

REMARKS

The Examiner's Office Action dated on December 14, 2004 has been received and its contents carefully considered.

In this Amendment, Applicants have amended the specification in order to correct idiomatic errors and informalities noted by Applicants during review of the application. In addition, claims 1-12, 14-19, and 21-23 have been amended. Claims 1-23 are now pending in this application, where claims 1, 12, 13, and 20 are the independent claims. Applicants respectfully submit that no new matter has been added and that the originally filed specification, drawings, and claims support the amendments. For the following reasons, it is respectfully submitted that the application is in condition for allowance.

As requested by the Office Action, Applicants reviewed the specification. Accordingly, Applicants have amended one paragraph beginning at line 2 of page 11 and another beginning at line 6 of the same page, with respect to the clean version of the substitute specification submitted dated July 28, 2004, in order to correct typographical and idiomatic errors found during the review. In particular, the description that "the invention discloses a FIFO (First In First Out) node sharing method for forwarding packets in sequence in Ethernet switching network" in the paragraph beginning at line 2 of page 11 has been amended as "the invention discloses an output queuing method for forwarding packets in a switching network, wherein a global output queue, shared by port output queues related to ports in the switching network is used for forwarding multicast packets" in order to make the paragraph idiomatically consistent with the disclosure of the invention.

Claims 1-11, 14-19, 21-23 are objected to because of the informalities set forth on pages 2-3 of the Office Action. Applicants have amended these claims to correct the informalities, as required by the Office Action. Thus, withdrawal of the objections is respectfully requested.

In addition to the correction as required by the Office Action, claims 6, 7, 8 are further amended for the correction of informalities and for clarity.

Applicants acknowledge with appreciation that the Office Action has allowed claims 13 and 20, and indicates that claims 1-11, 14-19, 21-23 would be allowable if rewritten or amended to overcome the objection(s) to these claims with respect to informalities, as set forth in the Office Action. Since the objections to claims 1-11, 14-19, 21-23 have been overcome, as above discussed, it is respectfully submitted that these claims are in condition for allowance.

Claim 12 stands rejected under 35 U.S.C. §102(e) as being anticipated by Sun et al. (U.S. Patent No. 6,574,194). Claim 12 is amended to overcome the rejection. For at least the following reasons, it is respectfully submitted that claim 12, as amended, is patentably distinguishable over Sun et al.

Applicants' claim 12, as amended, recites:

12. An output queuing method for forwarding packets in a switch network, the switch network containing a plurality of ports, each port corresponding to a port output queue, a global output queue shared by all port output queues, the packets being of the type of unicast or multicast, the output queuing method comprising:

detecting the type of a receiving packet;
if the type of the receiving packet is unicast, allocating the receiving packet into the port output queue by enqueueing a unicast node corresponding to the receiving packet into the port output queue, wherein the unicast node comprises a

multicast count field and the multicast count field is initialized for counting how many multicast nodes corresponding to multicast packets that follow the receiving packet are enqueued into the global output queue;

if the type of the receiving packet is multicast, allocating the receiving packet into the global output queue by enqueueing a multicast node corresponding to the receiving packet into the global output queue, and by setting, for each of the port output queues, a multicast count field of a unicast node which is last enqueued to indicate how many multicast nodes corresponding to multicast packets that follow a corresponding unicast packet of the last enqueued unicast node have been enqueued into the global output queue; and

when the receiving packet is unicast and is to be transmitted:

dequeuing the unicast node corresponding to the receiving packet from the port output queue;
sending out the receiving packet; and
determining whether to perform multicast packet forwarding from the global output queue according to the unicast node corresponding to the receiving packet.

Applicants respectfully submit that Sun et al. do not disclose, teach, or suggest all features and relationship of the claimed invention as recited in claim 12.

The Office Action alleges that Sun et al. disclose claim 12. The Office Action asserts that the passage of column 5, lines 31-41 of Sun et al. discloses two kinds of packets being unicast and multicast packets whereby unicast packets are enqueued into an output queue for the corresponding ports. However, this passage fails to disclose, teach, or even suggest that: “if the type of the receiving packet is unicast, allocating the receiving packet into the port output queue by enqueueing a unicast node corresponding to the receiving packet into the port output queue, wherein the unicast node comprises a multicast count field and the multicast count field is initialized for counting how many multicast

nodes corresponding to multicast packets that follow the receiving packet are enqueued into the global output queue”, as recited in claim 12.

In addition, the Office Action asserts that the passages of column 5, lines 42-60 disclose the multicast queue linked list being maintained for multicast packets which clearly corresponds to the global output queue now claimed. However, these passages do not disclose, teach, or suggest that “if the type of the receiving packet is multicast, allocating the receiving packet into the global output queue by enqueueing a multicast node corresponding to the receiving packet into the global output queue, and by setting, for each of the port output queues, a multicast count field of a unicast node which is last enqueued to indicate how many multicast nodes corresponding to multicast packets that follow a corresponding unicast packet of the last enqueued unicast node have been enqueued into the global output queue”, as recited in claim 12.

Further, the Office Action asserts that the passages of column 9, line 50 to column 10, line 2 discloses the step of updating the multicast queue list including the dequeuing process when the multicast packet have been determined to be successfully delivered; and that Fig. 3A shows that the unicast and multicast packets being stored in SSRAM clearly reads on the global output queue being shared by all port output queues. However, the referenced passages, as well as Fig. 3A, do not disclose, teach, or suggest that “when the receiving packet is unicast and is to be transmitted: dequeuing the unicast node corresponding to the receiving packet from the port output queue; sending out the receiving packet; and determining whether to perform multicast packet forwarding from the global output queue according to the unicast node corresponding to the receiving packet”, as recited in claim 12.

Thus, contrary to the Examiner's position, Sun et al. do not disclose, teach, or suggest all of the features and relationships of the claimed invention as recited in claim 12. For at least the foregoing reason, it is respectfully submitted that claim 12, as amended, is patentably distinguishable over Sun et al. Withdrawal of the anticipation rejection is respectfully requested.

In summary, it is submitted that the application, as amended, is in condition for allowance, and notice of such is respectfully solicited.

Should the Examiner feel that a conference would be helpful in expediting the prosecution of this application, the Examiner is hereby invited to contact the undersigned counsel to arrange for such an interview.

Respectfully submitted,



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Date

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